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U.S. Customs and Border Protection's Airport Face Recognition Program

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Introduction

Customs and Border Protection's new airport face recognition system has attracted a lot of attention and [criticism](#), most recently last month when the agency [backed away](#) from [suggestions](#) that it would make the program mandatory for American citizens. Defending the program, CBP officials argue that this program doesn't involve mass surveillance. But CBP's program still involves the mass collection of photographs of the general public. It's already mandatory for non-citizens, whose images retained long-term, which is a civil liberties problem. And there's a [growing](#) body of evidence showing the risk of harm resulting from bias or other inaccuracies with the technology.

The biggest harm from this program, however, is likely to come from the investment that it represents, the precedent it sets, and the path it puts us on as a society.

And where that path leads is a nightmare. It hardly takes a paranoid flight of fancy to foresee this program morphing into something far more comprehensive and dystopian — a world where face recognition is used throughout our public spaces to scrutinize our identity, record our movements, and create a world where everyone is constantly watched. As we have [discussed before](#), DHS and the aviation industry [as a whole](#) have a sweeping vision of expanded use of face recognition in the air travel context, and the government itself has already laid out — and begun following — a very specific, clear, and well-defined pathway for how the current program leads to a much broader implementations of face surveillance at the airport. And from there, it will be poised to expand far beyond the airport.

Here is what that pathway looks like:

1. The current system becomes entrenched.

Under the [current program](#), known as the Traveler Verification Service (TVS) and in operation at a growing number of airports around the country, departing international passengers pose for a photograph at the aircraft gate, which is then compared to a pre-assembled gallery of government mug shots (mostly passport and visa photos) of all the passengers registered for

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that flight. That gallery is stored in the cloud. Face recognition is used to make sure the photo of the person posing matches someone in the gallery. If there is no match, then airline personnel manually compare the passenger's passport against their face, as they have always done.

2. Face recognition is expanded to TSA checkpoints.

The first step in the system's expansion is already underway: its spread from aircraft boarding gates to other parts of the airport. To begin with, CBP has started a "[demonstration program](#)" aimed at integrating its TVS face recognition program with the TSA checkpoints at the airport security perimeter. Under the program, TSA checkpoint document reviewers use CBP cameras and tablets to run passengers who have tickets for "specified international flights" through the TVS system. TSA is also looking at using CBP's infrastructure to roll out face recognition for PreCheck travelers and other members of its so-called "trusted travel population."

In general, extending the TVS program beyond aircraft gates to TSA checkpoints and elsewhere would make it much easier for face scanning to expand. It would mean building an infrastructure of cameras and devices that could then be scaled up. The TSA-CBP demonstration program presumably already means that CBP is assembling a gallery of photographs not of one flight, as in the current TVS program, but of a larger number of those "specified international flights" departing from a certain terminal on a particular day. That points toward a possible future of ever-increasing scale.

3. The program is expanded to more travelers, and eventually all.

Once the infrastructure has been built for one-to-many face recognition checks against cloud galleries at TSA checkpoints for PreCheck and some international passengers, the system is then poised to expand to cover more and more of the 2 million+ passengers who pass through the TSA's security checkpoints every day.

A [strategic roadmap](#) that the TSA issued in 2018 clearly lays out how the agency wants to expand face recognition over time. It directs the agency to:

1. Partner with CBP on Biometrics
2. Operationalize Biometrics for TSA PreCheck Travelers
3. Expand Biometrics to Additional Domestic Travelers

Those "additional travelers" will first be covered by new devices known as Credential Authentication Technology (CAT) machines, which scan a passenger's ID to determine if it's authentic. In a [trial](#) currently under way in Las Vegas, the machines also take a photograph of passengers and use face recognition to try to verify that the ID actually belongs to the person standing at the kiosk.

That system could easily be a self-contained, one-to-one matching system that stores no data and raises few privacy issues. Indeed, as envisioned in the roadmap, the general traveling population will first be subject to one-to-one matches. But over time, [according to](#) the roadmap, they too will be pushed into the systems that carry out cloud-based one-to-many checks — presumably through the TVS infrastructure. The TSA does not possess photographs of non-PreCheck domestic passengers as CBP does for international ones, but the agency says that for such passengers it will "explore innovative opt-in approaches to building biometric capabilities."

4. The system is made mandatory.

The government likes to stress that these programs are optional for American citizens, but we expect that eventually these agencies will want to make submission to face recognition checks mandatory for all. Though Current CBP policy is that the system is opt-in for American citizens, reports abound of people trying to exercise this opt-out right being told they can't or subject to negative repercussions for doing so. And despite the existence of documents showing that CBP has already contemplated making the entry/exit photographs mandatory, the agency says that it has "[no current plans](#)" to do so.

There is ample reason to suspect that this highly hedged concession to current controversy will be retracted once the heat is off. Indeed, a very similar process happened with regard to the TSA's body scanners; when they were new and controversial the agency emphasized that they were voluntary, but after the controversy died down quietly [announced](#) that they were making submission to the scanners mandatory.

5. The system expands to include watchlist checks

Once face recognition becomes entrenched at TSA checkpoints, there will be enormous pressure to turn those checkpoints into broader law enforcement checkpoints where people are subject to watchlist, criminal, and immigration checks. The TSA is not a law enforcement agency, and its checkpoints are not general law enforcement stops. The TSA's authority to search people without a warrant is strictly confined to what is necessary to protect aircraft safety; TSA agents can't conduct general criminal investigations when they find things suspicious. For example, TSA agents are [not allowed](#) to interrogate people for carrying [large amounts of cash](#).

CBP, however, does consider itself a law enforcement agency. The agency [already partners with](#) TSA in creating and applying flawed watch lists and [algorithmic risk assessments](#) of passengers based on biographical data (and secretive criteria), but CBP said in 2018 that it [planned](#) to also start running some passenger photos through the government's IDENT biometric watchlist, which, according to DHS, [includes](#) "known or suspected terrorists, criminals, and immigration violators." Among other things that raises the prospect that the TSA checkpoints will be turned into something new: a place where arrests of wanted people — including those deemed to have violated our immigration laws — routinely takes place.

CBP says that during its testing, IDENT checks will be confined to foreigners, but it's easy to see that limitation falling by the wayside. And the expansion of face recognition to include those kinds of checks would greatly increase pressure from agencies such as the FBI and CIA, who, I have been told, already want to leverage TSA checkpoints for law enforcement and intelligence purposes. These agencies will want help trying to find people of interest, and they'll want new photographs of people to update and expand their files (since face recognition gets more accurate with newer and more numerous photos of a subject). DHS has already said it wants its face recognition system to be interoperable with other DHS agencies like ICE.

And of course once these face recognition checkpoints are used to try to spot those in the IDENT database, pressure will build to expand it further and try to identify everyone from parole violators to deadbeat dads. At each step the argument will be, "This is a serious problem, why aren't we using this system to address it?" And as the number of watchlist checks increases, so would the number of random Americans who get mistaken for somebody on those watchlists

and find themselves hassled, interrogated, detained, or worse — just for taking a flight from one American city to another.

6. Expanding government face recognition dovetails with airline face recognition

Such an expansion of government face recognition technology, if allowed to happen, would coincide with and help fuel the airlines' own uses of biometrics.

The airlines have a crucial role in the government's face recognition vision. CBP is trying to create an infrastructure that the United States (unlike some other countries) has never had: border checkpoints for those *exiting* the country. But supporters of this system apparently don't want it badly enough to actually *pay for* the government system they think we should have. Instead, they're trying to do it on the cheap — not only by using face recognition (which is cheaper and easier to implement than other biometrics albeit [uncertain](#) in its fairness and accuracy), but also by prodding the airlines to supply the equipment and manpower to actually run the system. And that, in turn, is implicitly based on CBP's understanding that the airlines are embracing biometrics for their own purposes.

And the airlines are [certainly interested](#) in doing so. With over 2 million people a day flying domestically, these companies run what is essentially a giant factory for the movement of people, and are always looking for ways to improve their "industrial process." Delta Airlines, for example, is already [cooperating](#) with CBP to experiment with face recognition for self-service check-in and bag check. Flyers presents themselves at the relevant kiosk where their [photos are taken](#) and sent to CBP's cloud photo service. "CBP is excited at the possibility of biometric matching from curb to gate," the agency [proclaims](#) in [materials directed](#) at its airline "partners." "Airlines and airport authorities have an extraordinary opportunity to influence the future of secure air travel by co-developing processes that meet business, traveler and security needs."

We've been down this road before. The TSA's "Secure Flight" program, first implemented in 2009, forces passengers to hand over personal data to the airlines (their full name, gender, and date of birth) but lets the airlines do whatever they want with that information, providing a valuable data windfall for those companies. One question is whether we'll see the same thing happen with traveler mug shots. CBP currently says the airlines won't be permitted to keep the photographs those airlines take with their own equipment, but not that's written in any law or regulation and it's far from clear if and how that will be rigorously enforced.

7. Airport face recognition expands beyond the airport.

Airport bag searches were new in American life when they were first introduced in response to a wave of hijackings in the 1960s and 1970s. Since then, they have expanded throughout American life to many office buildings, schools, museums, sports stadiums, and even some gatherings in public spaces such as fireworks on the National Mall. Unfortunately there are too many reasons to think that face recognition, if it becomes accepted at airports, will follow this existing path toward the "airportization of American life." Already we see whitelist ([/blacklist](#)) programs like PreCheck and CLEAR being [piggybacked upon](#) by the private sector.

Conclusion

CBP's TVS program is the first government face recognition checkpoint in American history. If America decides to allow its deployment to continue, where will things go from there? We don't have to wonder because the government has already told us much of the story. This kind of mission creep is one reason why it is important to raise awareness over, ask sharp questions about, and ultimately oppose the CBP program.

In light of the program's significance, we have filed Freedom of Information Act [requests](#) with CBP, TSA, and ICE seeking documents about how it operates, including whether the technology is biased or otherwise inaccurate, and how the government is partnering with airports and airlines in administering it. We are also seeking more details on how the government plans to expand it — though as we have seen, that is an area where we already have a dismaying amount of information.